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The New Health Practitioner — The Past as Prologue

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The training and utilization of New Health Practitioners (NHP's) has moved within a decade from a small tentative beginning in the mid-1960's to a major health manpower policy issue. Its discussion transcends a number of important and emotionally charged areas including the role of various professions in providing health care services, the renaissance of primary care, the geographic and economic maldistribution of medical services, and the cost of care. It is valuable to highlight what is known, what is professed and what needs to be studied further about this issue.

IN ORDER TO appreciate where we are, it is necessary to have some sense of where we have been. New Health Practitioners (NHP)* actually have been utilized for some time, both in this country and in a number of developing nations where nonphysician practitioners are the only mode of health care delivery for large areas.[2]

The formal training of NHP's within the United States did not really gain national support until the mid-1960's. Yet, again, such training and utilization efforts were not new, even in this country. The Frontier Nursing Service developed by Mary Breckenridge in 1952 to provide midwifery and health education to the people of eastern Kentucky, was perhaps the first formal American effort to train and use physician's assistants. It currently maintains a chain of nurse-run outpost clinics designed to provide primary medical care.[3] Moreover, as long ago as the 1930's, former military corpsmen received on-the-job training in federal prisons to assist overworked prison doctors (according to Mr. R. Bunker, Acting Director, Physician's Assistant Training Program, Medical Center for Federal Prisoners, Springfield, Missouri, in a personal interview, March 15, 1977).

Gradually investigators and commentators began to suggest[4-7] publicly what practicing physicians had known for years: (1) that nonphysician personnel in general medical practice can effectively carry out certain traditional functions as well as most physicians; (2) that such delegation of tasks extends the potential effectiveness of a physician by allowing him more time for patients with greater needs and for participation in preventive and community health activities,

*At the risk of being flayed as male chauvinist foes of nursing, we are going to use some terms for the sake of convenience even though they appear value-laden. The generic class of Physician's Assistant (PA), Nurse Practitioner (NP), Medex and the like will be called "new health practitioners" (NHP) and will be referred to with a male pronoun, except that specific references to nurses will use the female pronoun. The difficulty in finding a term which adequately encompasses without offending is testimony to the confusion in the field today.1 Nurses vehemently reject any term that describes them as extenders of physician practices, as will be examined in the text. The term NHP is used here only as a tool of convenience, not as any endorsement of a concept. We recognize that NHP's are no longer new. The very need for an explanation like the foregoing indicates the extent to which the subject we are dealing with is emotionally laden.

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and (3) that nonphysician personnel are surprisingly well accepted by patients in these more responsible roles. Almost every physician, and particularly those in the more remote areas, has trained his office staff to assume major clinical responsibilities, although these functions may not always be codified or even made explicit. Frequently office assistants with no formal training may be called upon to triage patients, separating the very ill from the less sick. They may handle telephone requests for advice and when the doctor is away, they may provide some degree of immediate support. Other types of health professionals are also frequently drafted to offer assistance. Local pharmacists may be called upon to prescribe or advise as well as to dispense. While continuing to handle their preventive functions, public health nurses may be commandeered to treat patients.

The current movement to make use of assistants to provide some of the services traditionally rendered by physicians may be said to have begun in 1965 with the development of a program for physician's assistants at Duke by Dr. Eugene A. Stead and the beginning of the Pediatric Nurse Practitioner program at the University of Colorado by Dr. Henry Silver in the Department of Pediatrics and School of Nursing.

Although several individual nurse practitioner programs were developed and evaluated during the next several years,[8,9] 1969 looms as the next critical year in this abbreviated history. In that year the American Medical Association invited the nursing profession to play the role of physician assistant (PA) and was rebuffed stoutly. From that point on the lines were drawn (often obscurely) between what has been called the illness model (medical) and the health model (nursing) of NHP practice.* This question of whether the NHP is a surrogate/support for the physician or a new form of health practitioner capable of autonomous activity remains an important and hotly contested policy issue.

Issues Around NHP's

The initial enthusiasm for NHP's can be attributed to the marketing campaigns and packaging that were developed for the product. NHP's were hailed as the solution to a variety of perplexing problems. Virtually with one blow they were offered as (1) a vehicle for correcting the maldistribution problem by providing services in underserved areas, (2) a source of needed manpower for primary health care services, (3) a means of cheaper care (both to train and to utilize) and (4) a source of employment for returning Vietnam war veterans.

Now a decade later we look out to see a slightly different environment. The predicted doctor shortage now threatens to become a physician surplus, since specific federal legislation (PL 94-484) has been enacted to encourage large numbers of new doctors to enter primary care. At the same time, the costs of care continue to escalate faster than the gross national product. At such a moment it is useful to see which of the issues surrounding NHP's have been resolved and which remain open.

Perhaps the most volatile is still the question of semantics. At present, claims are being laid to the territory vaguely demarcated as primary care with the speed and enthusiasm of the Oklahoma land rush. The varying definitions offered by medicine and nursing about their respective roles, and those of NHP's, adds another dimension to what has become a multidimensional matrix. It is ironic that although the various forms of NHP's may appear to be very different in function, and may even be trained differently, in fact they seem to be more alike than dissimilar in practice. Moreover, the differences, where they occur, seem to be as much due to some combination of practice environment and professional interest as to any specific training effect. Nonetheless differences in training and background produce students with various labels and seem to directly impact the NHP's self-image.

Training and Role Definition

The NHP traces his lineage to two professions: medicine and nursing. His strength lies in the synthesis of these two but he is vulnerable because of the antagonism between them. It is, consequently, very apparent that the NHP movement currently suffers from a growing conflict between the two parent professions. The problem lies not in what the NHP does, but, instead, in the way the NHP perceives himself and is perceived in his health care delivery role.

In general we can say that PA's have been trained by representatives of medicine and nurse practitioners (NP's) have been trained by nurses. While all available data show little difference in the quality or scope of performance of PA's and NP's working in similar conditions, there are

*For a more complete discussion of the early history of the NHP movement and the schism between medicine and nursing see the monograph by Sadler, Sadler, and Bliss.[10]

important differences in their perceived roles and the goals they pursue. These differences are directly attributable to the self-image conveyed by the dominant educating profession.

Medicine views the PA as an extension of the physician—a paraprofessional who can fulfill many of the tasks usually carried out by the doctor. In contrast, nursing sees the nurse practitioner as a means of extending the profession into more direct responsibility for primary patient care, but with a very definite orientation towards maintaining a clear identification with the traditional values of nursing. This value system emphasizes *health* care as opposed to *medical* care, putting heavy emphasis on prevention and counseling. The NP is not content to have responsibilities delegated to her by the physician. This difference in emphasis, together with the need of nursing to retain its identity as a profession separate and distinct from medicine, accounts for most of the difference in performance between NP's and PA's. The contrast lies in the ethos they have absorbed, not in the skills they have acquired.

The role of the NP is further confused by two additional factors. Unlike the PA, the NP does not appear on the scene as a new entity. She is frequently viewed as an extension of the nurse's traditional role and as such may lack a clear identity of her own. Physicians and patients (and other health personnel) used to dealing with nurses in one way now are asked to readjust their thinking in order to recognize the NP as a new health professional. Such a change in tradition is, of course, never readily accomplished without sustained effort and some indication that such change is justified.

The second difficulty sometimes encountered by the NP is reflected in the shift in pronoun made in the previous paragraph. Most NP's are women and are thereby caught up in a morass of stereotypic thinking and behavior even in the midst of the women's liberation movement. We do not mention this fact to condone it, but rather to emphasize that even in our enlightened era sex prejudices continue to exist, particularly when they are associated with stereotyped roles like that of the nurse. Probably the worst experience with NHP's has occurred when an office nurse leaves a practice to acquire NP training and returns with a new set of skills and a new self-image which is not shared by her colleagues.

The health focus of the NP poses a dilemma shared by all concerned about the role of prevention, but it is a special problem for a group whose identity depends on success in this area. Perhaps this is best summarized in the words of one nurse practitioner:

> We are in a quandary currently as to who will pay for the time it takes to provide preventive services. We are in a state of flux in terms of how to best prepare a provider to make decisions for providing these services in a much shorter period of time compared to traditional nurses and physicians. Before we resort to our usual slogans like "an ounce of prevention . . ." or "sugar and spice and . . ." and then continue our business as usual, we should examine the larger determinants—both overt and covert—of the behaviors of providers and consumers.[11]

Legal Status

The role confusion of the NP and PA is reflected in concerns about their legal status. The legal limitations on the functions of NHP's represent a social codification of professional interests. The legal status of NHP's consequently, is controlled by the medical practice and nurse practice acts of each state. More than 40 states have enacted legislation governing the utilization and supervision of physician's assistants and 21 have adopted specific statutes for nurse practitioners during the past six years.[12] Every law governing physician's assistants requires physician supervision. The wording of the North Carolina statute, for example, is typical of the language and intent of most such laws. It reads:

> The assistant must generally function in reasonable proximity to the physician. If he is to perform duties away from the responsible physician, such physician must clearly specify to the Board those circumstances which would justify this action and the written policies established to protect the patient (North Carolina General Statutes, 1971).

While national nursing organizations and some nurse educators have loudly and frequently proclaimed the professional and legal independence of nurses and have resisted all attempts to equate nurse practitioners with other NHP's, especially physician's assistants, it is unlikely that they will be able to overcome the professional, political, legal and economic barriers that currently prohibit them from competing with physicians in the private practice of medicine.[12] As Blair Sadler, a noted legal analyst of the NHP movement, has concluded:

> To advocate, as some organizations have done, that certain professions should be legally independent and receive no supervision from medicine is a grave mistake, because it is on a collision course with increased func-

tional independence. The price of statutorily prescribed legal independence for nurse practitioners or physician assistants will be laws that are very strict and define with too much detail exactly what tasks can be performed and under what circumstances—a high price indeed for an "independent" straitjacket.[13]

Open and Closed Issues

In the decade since the new health practitioners movement got underway much information and experience have become available. It seems almost tautologic to say we know far more now than we did then. For many observers, several of the issues that loomed as important questions have now been satisfactorily resolved. However, others concerned about our knowledge of new health practitioners in the past point out that by far most of our information comes from two types of sources: (1) small intensive studies of a few persons from which only tentative generalizations are possible, or (2) broad national surveys which rely on self-reported information. To the purist neither of these sources is particularly satisfactory; yet because the reported findings seem to confirm our own individual experiences, we have come to accept them as valid despite their methodologic deficiencies.

Today it is safe to say that there are indeed a number of closed issues regarding NHP's. If they are not proved conclusively, they are at least not hotly disputed. These closed issues would include patient satisfaction, quality of care and physician/employer acceptance. Patients have been very accepting of and satisfied with the care rendered by different kinds of NHP's. The quality of care delivered by NHP's, by whatever means we can measure this elusive concept, has been shown to be equivalent to that rendered by physicians working on similar problems.[8,9,14-16] Those sites that have engaged an NHP have usually found it to be a satisfactory experience as reflected in the retention rates of about 80 percent. NHP's have been accepted into a variety of settings including both office and institutional practice, solo and group. The potential job market is much less clear. A few studies have attempted to explore attitudes of potential employers,[17,18] but these have several limitations: (1) they pose the question in theoretical terms rather than relate actual experience; (2) they depend on a definition of the NHP's role and status; for example, if a nurse clinician is uncomfortable as an employee of a physician, her potential market is considerably more constricted than that of a physician assistant who does not share this discomfort; (3) projections from current and past employment rates always threaten to pass the point of market saturation.

Despite optimistic reports anecdotal evidence suggests that there are a number of NHP's looking for jobs. In the decade of the NHP movement there has been a major shift in the manpower environment; fears of a physician shortage have given way to projections of a possible physician excess. The attitudes of physicians toward NHP's are generally positive but the motivation to hire one will depend upon market pressures.

One of the motivating factors for at least one group of NHP proponents, third-party payors, has been the assumption that substituting NHP for MD manpower would result in substantial cost savings. Projections done for prepaid group practice situations appear to support this contention,[19,20] but as Reinhardt has suggested, the true cost of a physician (or physician equivalent) lies much more in the services he causes than in the ones he provides directly.[21] Any augmentation of the physician manpower pool is thus likely to be inflationary.

The future of NHP's is closely linked to the general emphasis today on primary care. If the present thrust can be sustained we can anticipate that substantial numbers of physicians will be redirected from subspecialties into primary care. This may well decrease the demand for NHP's except in areas where physicians cannot be enticed. Alternatively, these new physicians may elect to function more as managers, supervising teams of NHP's. However, this team approach will be in direct conflict with cost containment efforts; one thing is clear: team care is expensive.

The National Scene

One of the most frustrating aspects of any attempt to synthesize our knowledge about NHP's is the wide variations encountered. Simple summary statements just do not hold. Clearly all NHP's are not alike. Physicians have mixed motives in working with them. The settings make varying types of demands on the skills of an NHP. The interpersonal interaction of physician, NHP and other staff may vary widely. Given this kind of variation in the ingredients and the recipe, it is not surprising that the dish may be tasty to some palates and not to others. We have found that the most consistent observation across prac-

TABLE 1.—*Current Work Settings of Graduates**

	Percent			
	Physician's Assistants	*Medex*	*Nurse Practitioners (Certificate)*	*Nurse Practitioners (Master's)*
Setting				
Private solo	20	34	54	58
Private group	31	31		
Clinic	12	11		
Private hospital	13	7	18	35
Government hospital	15	9		
Extended Care facility	4	2	1	3
Non-hospital institution	..	..	15	1
Community and home health	..	..	12	9
School of Nursing	..	..	6	31
Other	5	6	5	4
	100%	100%	111%†	141%†
N=	632	274	243	78

*Adapted from Nurse Practitioner and Physician Assistant Training-Deployment Study. Bethesda, Maryland, System Sciences, Inc., Sept 30, 1976. Final Report on Contract No. (HRA) 230-75-0198.

†Reflects multiple work settings.

TABLE 2.—*Self-Reported Activities of Graduates**

	Physician's Assistants	*Medex*	*Nurse Practitioner (Certificate)*	*Nurse Practitioner (Master's)*
Percentage employed	89	96	90	98
Median number of patients seen daily	24	>25	12	11
Median patient care hours worked per week as NHP	48	48	31	39

Note: response rates vary for each item

*Adapted from Nurse Practitioner and Physician Assistant Training-Deployment Study. Bethesda, Maryland, System Sciences, Inc., Sep 30, 1976. Final Report on Contract No. (HRA) 230-75-0198.

tices and programs was variation—but for the most part these were variations on a theme.

The several data sources that describe the national picture are similarly inconsistent. Different studies have been contracted by different agencies; each has a slightly different focus and a different methodology. The resultant landscape of the national scene is therefore more of the impressionist school than that of the realists. Nonetheless the outlines are generally consistent even if the shapes seem a little blurred.

National data, taken from a University of North Carolina study of PA's and a State University of New York at Buffalo study of nurse practitioners, present a panoramic view of some of the differences in the way relatively early graduates representing these different types of NHP's are utilized. Table 1 examines the work setting. Two thirds of the PA's and three fourths of the Medex work exclusively in ambulatory practice settings. Nurse practitioners at both the certificate* and master's level are more likely to hold multiple jobs (one of which is often in a college of nursing).

These differences are further elucidated in Table 2. Medex and PA's spend more time in patient-care activities related to their NHP role and see correspondingly more patients per day. The employment rates cited may be overoptimistic on the basis of the sampling frame used. More recent information from the SUNY follow-up on NP's suggests that only 75 percent of certificate graduates and 45 percent of the master's graduates were employed as NP's.

Distribution

Both PA's and NP's have had a beneficial effect on health manpower distribution. Data regarding the actual distribution of NHP's among the population have only recently been forthcoming. Lawrence and co-workers,[22] the Association of Physician's Assistant Programs[23] and the Government Accounting Office[24] have suggested that some NHP graduates are doing better than others in terms of their willingness to practice in areas which require additional manpower. Although only fragmentary data are available (see Table 3) it would appear that PA's (especially Medex) have been most effectively deployed in rural areas while NP's (especially the certificate graduates) have gravitated to the inner city.

NHP's have been viewed by some as a means of addressing the sociocultural maldistribution. Special recruitment efforts among minority groups offer a means to attract and train NHP's who might be more likely to work with their peers. Table 3 suggests that no type of NHP program has been excessively successful in reaching out to minority groups. As might be anticipated, those further up the academic ladder are less represented with minority trainees.

One area where NHP's could be creatively deployed to meet a major service deficit (in both quantitative and qualitative terms) is in nursing homes. NP's in particular have the combination of skills and attitudes to perform most effectively

*The certificate graduate NP appears to be a dying breed. These programs sprang up as stopgap measures by nursing educators to retrain nurses for the expanded role. They have now almost entirely given way to master's level programs.

TABLE 3.—*Characteristics of New Health Practitioner Graduates**

	Percent Minority	Percent in Rural Areas	Percent in Inner Cities
Physician's Assistants	12	18	..
Medex	15	37	..
Nurse Practitioners (Certificate)	13	19	31
Nurse Practitioners (Master's)	5	..	..

*Adapted from Nurse Practitioner and Physician Assistant Training Deployment Study. Bethesda, Maryland, System Sciences, Inc, Sept 30, 1976. Final Report on Contract No. (HRA) 230-75-0198.

in this setting.[25] The area of long-term care is one generally shunned by physicians,[26] but this avoidance behavior is as much the result of inability to deal with the important problems presented as a frustration with the setting and the poor prognosis.[27] Some data already exist to show that nurse practitioners, especially when working with social workers, can provide cost-effective care.[28]

Remote Deployment

The role of NHP's in responding to the primary care deficit will in large measure depend on their willingness and ability to remedy the geographic maldistribution of medical care. There are already some very promising models of NHP's working successfully in this capacity. Perhaps the largest set of such experiences comes from Appalachia and spans the pioneering work of the Frontier Nursing Service to the present chain of small nurse practitioner staffed community owned clinics in North Carolina.[29]

The value of NHP's in a remote setting is a direct function of the degree to which they can work without direct physician supervision. This independent role is, in turn, linked to a number of concerns about the relative comfort of the responsible physician, the NHP and the community.

One means of providing the necessary contact to assure responsible care may lie in technology. Experiments with various means of both sound and video communication have suggested that these have a positive effect on the sense of well-being of all the parties involved. The idea that help is instantly available is very reassuring.[30,31] Computers may provide another means of technological linkage. Combined with a system of protocols a computer can continuously monitor NHP performance and assure that predetermined standards of care are followed.[32] The advent of minicomputers makes such technological monitoring financially feasible and provides the supervising physician with increased protection against malpractice.

Public recognition of the value of the remotely deployed NHP is mirrored in the current legislation to permit rural based NHP's to bill federal third-party programs directly for their services. There seems little doubt that deployment is closely linked to reimbursement. An NHP, whether working for a private or a public corporation, must have the means to generate income. Capitation has proven highly unworkable in rural, sparsely populated areas; fee-for-service reimbursement seems a much preferable route.

As we look toward the future the effect of NHP's on the distribution of care is less clear. To some extent it may be fair to say that NHP's have in large measure responded to market pressures. They have tended to locate in areas where there was a demand for their services and a means of retaining them. This market responsiveness is in stark contrast to physician behavior.

But what happens when the NHP movement comes of age? What is to prevent NHP's from assuming the professional prerogatives of physicians, preferring to remain in urban and suburban areas and allowing supply to create demand. We can already see some reasons for concern about this possibility. Nursing has already proclaimed its commitment to professional autonomy. PA's, who were created in the image of physicians but subordinate to them, give periodic evidence of a longing for independent professional recognition.[33] It seems reasonable to anticipate that with this new status, NHP's will fall equal prey to the pressures that draw physicians to urban centers and away from either rural areas or inner cities.

Productivity

The productivity of NHP's is of great interest to a variety of groups including providers and payors. The broad range of interested groups suggests the complex nature of this question. It is hardly surprising then that this remains an unresolved issue. A number of theoretical projections suggest that an NHP's productivity is in the range of 60 percent of a physician,[34] but that assumption illustrates the vagueness of our knowledge; who would accept the concept of a standard physician unit. Our own work has indicated the wide variation in the productivity of practices employing a Medex.[35]

We know that the environment (for example, prepaid versus fee-for-service, solo versus group) will greatly influence the work of physicians; it seems reasonable to expect that environment will also affect NHP productivity. NHP's employed by physicians will serve different purposes than those employed by institutions. Some physicians seek to increase the number or scope of services delivered; some simply seek relief; others are looking for company. Some want to share; some want to delegate; some want to supervise. The institutional administration deciding on the employment of an NHP will less likely be guided by personal needs.

Nor can the question of productivity be separated from reimbursement. NHP's working in a prepaid situation may be freed from this burden; and therefore Record's estimations,[19] although based on very small samples, may be interpreted as the productivity of an NHP in the uncontaminated setting. As such they suggest that the NHP is a cost-effective member of the health-care team.

Several studies would appear to confirm the financial productivity of the NHP's when their services are charged at the same rate as those of physicians.[35-38] Under mandate from PL 93-602 the Social Security Administration (SSA) is currently conducting a national study to examine the effect of alternative payment systems on NHP productivity and utilization.[39] The thrust of the SSA experiment, however, has been to establish some lower level of proportionate charge. Such a move would tend to reduce the marginal benefit of NHP's and to shift their range of activities toward those with lower unit costs. Smith has argued that the fee structure of medical care should be revamped to more clearly align cost and complexity.[40] If this realignment were done independently of who provides the care, a principle of equal pay for equal care would encourage the use of NHP's for those activities most appropriate to their skill level. However, since NHP's have been shown to be competent in most of the activities of primary care, this sphere of appropriateness is broad.

This reworking of payment principles is no trivial task. The concept is appealing but the implications may be appalling to physicians. We lack an adequate taxonomy for ambulatory care services. The present system grossly encourages surgical and technical procedures (such as labratory work). The basic unit of ambulatory reimbursement other than specific procedures is the office visit of varying sizes. The visit approach therefore becomes a time-based fee system. If there were equity of charge per service based on time spent, this could lead to equity of income between NHP's and MD's—a situation not likely to win much support from the latter, particularly if it entailed a payment system based on the former's wage as a move toward cost containment.

The other side of the productivity question transcends the issue of NHP's although it is caught up in much of the rhetoric, especially about nursing. The question is the extent to which NHP's bring a new dimension to health-care delivery. One becomes quickly enbroiled in arguments over the distinction between health care (with its emphasis on wellness) and medical care (presumably based on an illness model). Much of this debate hinges on the role of NHP's in providing preventive health care and health education. Unfortunately, we have not yet resolved this question for health-care delivery in general and adding NHP's to the already confused picture only clouds the issue. If we indeed have a service which is unsalable, associating it with a new type of health provider will not make it more attractive.

Summary and Conclusions

The picture that emerges of the contemporary NHP movement appears hazy and complex. The factors identified by various observers are neither as simple as they first appear nor are they discrete entities. Productivity is closely related to reimbursement and both are linked with questions of cost. Distribution and demand are similarly tied to these issues.

Superimposed on this interlocking network of concerns are other more volatile issues of self-image and the general concern with the place of primary care in the health-care system. As we look back over the brief span of the NHP movement, it is easy to see that we have come a long way. As with other social movements, the pioneers have been replaced by the settlers and the outposts have given way to institutions. This retrospective analysis suggests that at least some of the original goals of the movement have been met—the NHP has established himself as a real entity accepted by patients and capable of delivering high-quality care.

Other goals are less clearly realized. The effect of NHP's on the cost of care will depend in large measure on how an NHP is paid and how much

he is allowed to do. Simply put, if NHP services are used in place of physician services (either at the same wage rate or less) the net effect should be a savings because of a readjustment of the price structure and lower use of ancillary services like the hospital. If the NHP is used in addition to the physician the effect is bound to be inflationary. Herein lies an important policy dilemma: the goal of increasing access to care (implying that the NHP is additive to the physician) must lead to an increase in cost.

The question of the NHP's effect on the geographic maldistribution may not yet be resolved. Early data look very promising but they must be reviewed with caution. As the market forces shift and NHP's acquire more established professional status with appropriate legal sanctions, they may become increasingly more responsive to the same social pressures which make it so difficult to send other health professionals to the areas of greatest need.

Much of the future of NHP's seems to be caught up in their struggle to establish an identity which is at once independent and responsible. A strong move toward professional autonomy will add new areas of conflict to the health-care system, but it seems almost inevitable that medicine and nursing must clash around this issue. An NHP who can demonstrate his productivity and acceptance is not likely to remain content for long in a subordinate position. The very success of the NHP movement may breed the next generation of interprofessional conflict.

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